

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

Claims 1-20 (cancelled)

21. (new) An isolated nucleic acid fragment comprising a nucleic acid sequence which is useful in antisense inhibition or sense suppression of endogenous lysine ketoglutarate reductase/saccharopine dehydrogenase activity in a plant or plant cell wherein said isolated nucleic acid fragment comprises all or a part of the nucleic acid sequence encoding a plant lysine ketoglutarate reductase/saccharopine dehydrogenase, said part being sufficient for use in antisense inhibition or sense suppression.

22. (new) A chimeric gene capable of causing an increased level of lysine in seeds obtained from a transformed plant, the chimeric gene comprising a nucleic acid fragment of Claim 21, said fragment being operably linked to at least one regulatory sequence.

23. (new) A plant comprising the chimeric gene of claim 22 in its genome.

24. (new) Seed obtained from the plant of claim 23.

25. (new) A method for increasing lysine content in a plant seed which comprises:

- (a) transforming plant cells with the chimeric gene of claim 22;
- (b) regenerating fertile mature plants from the transformed plant cells obtained from step (a) under conditions suitable to obtain seeds;
- (c) screening progeny seed of step (b) for increased lysine content; and
- (d) selecting those lines whose seeds have increased lysine content.

26. (new) Seed obtained by the method of claim 25.

27. (new) An isolated nucleic acid fragment comprising a nucleic acid sequence which is useful in antisense inhibition or sense suppression of endogenous lysine ketoglutarate reductase/saccharopine dehydrogenase activity in a corn plant or corn plant cell wherein said isolated nucleic acid fragment comprises all or a part of the nucleic acid sequence encoding a corn plant lysine ketoglutarate reductase/saccharopine dehydrogenase, said part being sufficient for use in antisense inhibition or sense suppression.

28. (new) A chimeric gene capable of causing an increased level of lysine in seeds obtained from a transformed corn plant, the chimeric gene comprising a

nucleic acid fragment of Claim 27, said fragment being operably linked to at least one regulatory sequence.

29. (new) A corn plant comprising the chimeric gene of claim 28 in its genome.

30. (new) Seed obtained from the corn plant of claim 29.

31. (new) A method for increasing lysine content in a corn plant seed which comprises:

- (a) transforming corn plant cells with the chimeric gene of claim 28;
- (b) regenerating fertile mature plants from the transformed corn plant cells obtained from step (a) under conditions suitable to obtain seeds;
- (c) screening progeny seed of step (b) for increased lysine content; and
- (d) selecting those lines whose seeds have increased lysine content.

32. (new) Seed obtained by the method of claim 31.

33. (new) An isolated nucleic acid fragment comprising a nucleic acid sequence which is useful in antisense inhibition or sense suppression of endogenous lysine ketoglutarate reductase/saccharopine dehydrogenase activity in a corn plant or plant cell wherein said isolated nucleic acid fragment comprises all or a part of the nucleic acid sequence of SEQ ID NO:120, said part being sufficient for use in antisense inhibition or sense suppression.

34. (new) A chimeric gene capable of causing an increased level of lysine in seeds obtained from a transformed corn plant, the chimeric gene comprising a nucleic acid fragment of Claim 33, said fragment being operably linked to at least one regulatory sequence.

35. (new) A plant comprising the chimeric gene of claim 34 in its genome.

36. (new) Seed obtained from the plant of claim 35.

37. (new) A method for increasing lysine content in a plant seed which comprises:

- (a) transforming plant cells with the chimeric gene of claim 34;
- (b) regenerating fertile mature plants from the transformed corn plant cells obtained from step (a) under conditions suitable to obtain seeds;
- (c) screening progeny seed of step (b) for increased lysine content; and
- (d) selecting those lines whose seeds have increased lysine content.

38. (new) Seed obtained by the method of claim 37.